

SECTION 810 -- SLOPE PROTECTION

810.01 -- Description

1. This work is divided into two classifications:
 - a. Slope Protection: This work shall consist of placing seed and a protective covering of mulch upon the completed shoulders, sideslopes, ditch bottoms, or backslopes as shown in the plans.
 - b. Temporary Slope Protection (applies only to shooflys and temporary roads): This work shall consist of placing a protective covering of mulch upon the completed shoulders, side slopes, ditch bottoms, or backslopes as shown in the plans. Note there is no seed applied.

810.02 -- Material Requirements

1. The mulch shall be prairie hay in good condition and generally less than 2 years old. Prairie hay shall mean hay from warm season grass stands.
2. Brome hay is not allowed.
3. a. The mulch shall be free of noxious weeds and certified as "noxious weed free." The certification shall be from the "County Weed Control Authority" or other authorized agent.
 - b. A copy of the certification shall accompany each load of mulch.
 - c. The certification shall be placed in a weather-proof container and attached to the stack of mulch it represents.
4. The Engineer shall approve the mulch before use.
5. The seed shall meet the requirements shown in the special provisions.

810.03 -- Construction Methods

1. The finish grading operation shall be started as soon as there are 9 acres of ground that could be finish graded.
2. The Contractor shall commence slope protection work within 5 calendar days after the finish grading operations have started.
3. The work on the project may be temporarily suspended for failure to initiate the finish grading and/or slope protection operation.
4. a. When the soil conditions will allow, the Contractor shall drill and broadcast the seed.
 - b. The seed drill rate and the broadcast rate shall be shown in the special provisions.
 - c. Broadcast seed is applied after the area is mulched.
5. a. The Contractor shall place the mulch for the slope protection uniformly at 2 pounds/square yard.
 - b. The slope protection mulch may be applied either by hand or machine. A Hay Buster type machine that unwinds a bale may be used.
 - c. A machine that chops a bale apart shall not be used.
6. a. The Contractor shall place piles of earth on the mulch to hold it in place. The earth piles shall be placed at intervals of not more than 40 inches in any direction over the surface of the area mulched. The piles of earth shall be of sufficient size to hold the mulch in place. The sources from which the Contractor obtains the earth for weighting down the mulch shall be approved by the Engineer and shall be left in a condition which is satisfactory to the Engineer.

b. (1) In lieu of securing the mulch with piles of earth, the Contractor may use a mechanical device to anchor the mulch. The mechanical device shall either be a drum roller with cleats or a crawler tractor with cleated tracks.

(2) The cleats on both the roller and the crawler tractor shall punch the mulch approximately 6 inches into the soil.

(3) Either device shall have sufficient cleats to anchor all of the mulch.

(4) Shoulders shall average 10 cleat punches per square yard.

(5) Areas other than shoulders shall average 4 cleat punches per square yard.

(6) More than 1 pass may be required to obtain the specified rate of cleat punches.

c. The equipment shall not be operated perpendicular to any slope if such action will promote soil erosion.

7. a. The Contractor shall cleat punch mulch on the project shoulders, and the Contractor shall pile earth as described in Paragraph 6. of this Subsection on the mulch that is within 4 feet of the pavement.

b. (1) In lieu of using piles of earth on the first 4 feet of the shoulder, the Contractor may apply 2 continuous strips of soil.

(2) One strip shall be placed at the roadway edge, and another strip should be placed at approximately 40 inches from the roadway edge.

(3) The dimension of this strip shall be approximately 5 inches wide and 3 inches high at the time of application.

(4) The soil strips shall be applied by machines.

8. a. The Contractor is cautioned that there may be areas requiring mulch that are too steep for machine application or anchoring.

b. Areas that are too steep for machine methods will be done by hand methods.

c. Steep areas are defined as slopes on which the mechanical devices being utilized would significantly disturb the finish grade.

9. Temporary Slope Protection (shooflys and temporary roads only):

a. Temporary Slope Protection requires no seed. The protective material for temporary slope protection may be hay, straw, or rushes applied at the rate of 1.25 pounds per square yard (0.68 kg/m²).

b. The protective material may be anchored by whatever methods the Contractor deems necessary. The temporary slope protection material shall be kept in good repair throughout the life of the project. The Contractor is responsible for its upkeep and no extra payment will be made for the maintenance and repair of "Temporary Slope Protection."

810.04 -- Method of Measurement

1. The slope protection quantity measured is the number of square yards of surface area mulched and anchored.
2. The slope protection area will be given to the Contractor either before the work begins or during construction. The total area given to the Contractor is the final measurement.
3. Slope protection mulch is measured as prescribed in Subsection 805.04.

810.05 -- Basis of Payment

| 1. Pay Item | Pay Unit |
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| Slope Protection | Square Yard (SY) |
| Slope Protection Mulch | Ton (Tn) |
| Temporary Slope Protection | Square Yard (SY) [Square meter (m ²)] |
| 2. Payment is full compensation for all work prescribed in this Section. | |